

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/EP2004/014554

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B23K9/133 B65H49/12 B65D85/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B23K B65H B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EP0-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2003/042163 A1 (CIPRIANT GIANCARLO) 6 March 2003 (2003-03-06) paragraph '0029!; figure 9	1, 15-19, 21-23 2-14, 20
X	US 6 016 911 A (CHEN ET AL) 25 January 2000 (2000-01-25) figures	1, 21-23
X	PATENT ABSTRACTS OF JAPAN vol. 009, no. 226 (M-412), 12 September 1985 (1985-09-12) & JP 60 082275 A (KOBE SEIKOSHO KK), 10 May 1985 (1985-05-10) abstract; figures	21, 23 1-20, 22
A	----- -/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "Z" document member of the same patent family

Date of the actual completion of the international search

8 April 2005

Date of mailing of the international search report

15/04/2005

Name and mailing address of the ISA
European Patent Office, P.O. Box 5918 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 851 epo nl,
Fax: (+31-70) 340-2016

Authorized officer

Jaeger, H

INTERNATIONAL SEARCH REPORT

International Application No.

PCT/EP2004/014554

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 009, no. 226 (M-412), 12 September 1985 (1985-09-12) & JP 60 082276 A (KOBÉ SEIKOSHO KK), 10 May 1985 (1985-05-10)	21,23
A	abstract; figures -----	1-20,22
A	WO 02/094493 A (ESAB AB; JENSEN, BERNT-INGE, B) 28 November 2002 (2002-11-28) cited in the application abstract; figures 3,5 -----	1-23

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.

PCT/EP2004/014554

FIG. 1

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2003042163 A1		06-03-2003	EP 1057751 A1	06-12-2000
			US 2001013479 A1	16-08-2001
			CA 2291947 A1	30-11-2000
			DE 69910357 D1	18-09-2003
			DE 69910357 T2	29-04-2004
			ES 2203052 T3	01-04-2004
			JP 2000335636 A	05-12-2000
			PT 1057751 T	28-11-2003
			US 6237768 B1	29-05-2001
US 6016911 A		25-01-2000	NONE	
JP 60082275 A		10-05-1985	JP 1695432 C	17-09-1992
			JP 3060588 B	17-09-1991
JP 60082276 A		10-05-1985	JP 1015353 B	16-03-1989
			JP 1529558 C	15-11-1989
WO 02094493 A		28-11-2002	SE 517147 C2	23-04-2002
			BR 0209818 A	01-06-2004
			EP 1387733 A1	11-02-2004
			JP 2004535932 T	02-12-2004
			MX PA03010343 A	16-03-2004
			SE 0101749 A	23-04-2002
			WO 02094493 A1	28-11-2002
			US 2004155090 A1	12-08-2004